

REMARKS

The present invention relates to a storing and/or transferring method of a polyalkylene glycol monomer.

In the Office Action dated August 10, 2004, claims 1-7 were rejected. It is appreciated that the Examiner has acknowledged Applicant's claims to priority and receipt of the certified copy of the Priority Document. It is also appreciated that the Examiner has acknowledged Applicant's earlier Information Disclosure Statements on February 13, 2002 and May 24, 2002. The Examiner is also requested to acknowledge Applicant's Information Disclosure Statement filed September 17, 2004 and furthermore the Information Disclosure Statement submitted herewith.

In the Office Action, claims 1-7 were rejected under 35 U.S.C. § 102(b) based on European Patent Application No. EP 0 989 109 (Hirata et al). Furthermore, claims 1-7 were also rejected under 35 U.S.C. § 103(a) based on Hirata et al, or alternatively were rejected based on U.S. Patent No. 6,040,473 (Knebel et al) in view of Hirata et al.

In the present Amendment, claim 1 has been amended and claim 8 has been added.

More specifically, independent claim 1 has been amended to further specify that the POV (peroxide value) of the polyalkylene glycol monomer is at a level no higher than 2. This amended claim recitation is supported by the disclosure in the specification, e.g., at page 11, lines 3 *et seq.*

Claim 8 is directed to a preferred embodiment of the invention, further defining the invention with respect to the temperature of the polyalkylene glycol monomer in the form of an aqueous solution. It is supported by the disclosure in the specification, e.g., at page 6, lines 14-16. Accordingly, the amended claim recitations are clearly supported in specification and do not raise any question of new matter.

For the reasons discussed more specifically below, Applicant respectfully traverses the rejections, and submits that claims 1-8 are now in condition for immediate allowance.

First, Applicant addresses the rejection of claims 1-7 under 35 U.S.C. 102 (b) as being anticipated by Hirata et al (EP 0 989 109).

Hirata et al teaches the production method of 80% aqueous solutions of a polyethylene glycol methacrylic acid ester (see Examples 4, 15 and 16). With respect to this production, it was stated "The 80% aqueous esterified product was stored in the reflux condenser." However, it is described on page 5, lines 3-14 of the present specification that " In the storing and/or transferring method according to the invention, "storing" or "storage" means a procedure

comprising placing and storing a substance in a storage vessel for a while or ... The storage vessel and the transfer vessel respectively include not only containers and drums but also tanks on the ground, underground tanks and the like in the case of storage vessels. ” On the other hand, in [0193] of Example 2 of Hirata, it is stated “... the interior of the reflux condenser as the condenser ...” and Hirata et al clearly states that the reflux condenser is equipped for cooling the reactants or reaction products. Thus, such reflux condenser is not a storage vessel of the present invention, and the cited Hirata et al reference fails to disclose the storing and/or transferring method of a polyalkylene glycol monomer of the present invention.

Therefore, the subject-matter of present claims 1-7 differs from the Hirata et al reference, and the present claims are novel since the Hirata et al reference discloses nothing regarding the content of the present invention.

Second, Applicant addresses the rejection of claims 1-7 under 35 U.S.C. 103 (a) as being unpatentable over Hirata et al (EP 0 989 109).

The Office Action stated “Hirata et al. disclose a mixture containing 240 parts water and the cement dispersant polycarboxylic acid (2) (see examples 15 and 16).” and “Thus, the artisan would have needed to transport the cement dispersant polycarboxylic acid (2) to the remaining ingredients in order to make the cement composition. Thus, there would have been a need to store the cement dispersant polycarboxylic acid (2) for transport.”.

In fact, however, Examples 15 and 16 of Hirata et al discloses the synthesis of polycarboxylic acid (1) and (2) from polyethylene glycol methacrylic acid ester which is synthesized in Example 4. During this synthesis, water and polyethylene glycol methacrylic acid ester are added in the reaction tank, and becomes a form of aqueous solution. However, Hirata et al disclosed nothing specifically with respect to the POV of the polyalkylene glycol monomer, nor does it focus on the importance of such property.

The present invention is achieved by optimization of the POV of the polyalkylene glycol monomer when storing and/or transferring it, and shows superior results and unexpected advantages as compared to the prior art such that it becomes possible to prevent gel-like matter formation with more certainty.

The Office Action further stated “Thus, the artisan would have needed to transport the cement dispersant polycarboxylic acid (2) to the remaining ingredients in order to make the cement composition. Thus, there would have been a need to store the cement dispersant polycarboxylic acid (2) for transport.”. In this part, the Office Action has noted the storing and/or transferring of polycarboxylic acid (1) and (2), which are polymers.

On the other hand, the present invention is a method of storing and/or transferring polyalkylene glycol monomers, which are to be used as raw materials in the production of

polymers for cement additives and so forth, in the form of an aqueous solution. The present invention is achieved by optimization of the method of storing and/or transferring polyalkylene glycol monomers, and shows superior results and unexpected advantages as compared to the prior art, such that polymerization of monomers, hydrolysis and/or thermal decomposition leading to quality deterioration and promoted oxidation can be reduced.

Therefore, Applicant's claimed subject matter would not have been obvious to the person of ordinary skill in the art over Hirata et al.

Third, with respect to the rejection of claims 1-7 under 35 U.S.C. 103 (a) as being unpatentable over Knebel et al (6,040,473) in view of Hirata et al (EP 0 989 109); Knebel et al teaches the synthesis of methoxypolymethylene glycol methacrylate in Example 1 and the reaction product is obtained in the form of a 50% aqueous solution. However, Knebel et al discloses nothing specifically with respect to the POV of the polyalkylene glycol monomer, nor does it focus on the importance of such aspect. The present invention is achieved by optimization of the POV of the polyalkylene glycol monomer when storing and/or transferring it, and shows superior results and unexpected advantages as compared to the cited prior art such that it becomes possible to prevent gel-like matter formation with more certainty.

Therefore, Applicant's claimed subject matter would not have been obvious to the person with an ordinary skill in the art over Knebel et al in view of Hirata et al.

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Accordingly, the contention that present claims 1-7 are unpatentable over Hirata et al or Knebel et al in view of Hirata et al is untenable, and is respectfully traversed.

In view of the above, reconsideration and allowance of claims 1-8 of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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